

Enterprise Data Mining: Issues & Solution

Majid Zaman

(Scientist, Directorate of Information Technology and Support System, University of Kashmir)

ABSTRACT : With almost all the enterprise globally having installed database applications for automation of activities, databases have grown out in volume and have much more data than anticipated by the enterprises. But the process of retrieving desired information is still beyond the credibility of common users and dependency is on the programmers and managers of the applications systems who are well versed with database specific query languages. These languages scare away naive end users who are left at the mercy of the programmers. It is not only about databases but also about files collected over a period of years. Enterprise generates all sought off files e.g. txt, pdf, html, jpeg etc on a day to day basis. The files are saved on the servers spread across the enterprise and yet again common users are dependent upon programmers and managers of the applications systems. Moreover the enterprise end users are not at all aware of the underlying architecture and neither have the expertise in server administration. In this paper I propose solution for enterprises, where in user can retrieve desired information without having to bother about database languages and/or server architecture.

Keywords—Data Mining, key word, Search

I. INTRODUCTION

With the success of search engines like google, yahoo etc the keyword based search has become the basis of information extraction from the internet however not many such tools have been designed for enterprises. In keyword search string of words normally referred as keywords are provided by the user and based on these keywords search is made by these search engines like google across the global servers. The user is presented with links of the servers where in keywords have matched. However internet users are not given access to enterprise databases and neither users of the internet require such access to databases but same does not hold true for enterprise users. In enterprise most of the data is stored in the database servers and common enterprise users is not having know how of database specific query languages and are left at the mercy of database programmers. It is need of the hour to provide similar search paradigm for enterprise database users who can query based on keywords much the same way as common may query internet on google without having information on the knowledge of underlying architecture [3].

Enterprise users should be able to query database without having any knowledge of database scheme either know how of underlying query languages. Data is stored in different database formats where data storage and retrieval techniques are different and non universal generic rules are applicable either on storage or retrieval, so the tool developed should be such that it does not rely upon user information or ability.

Data is not only stored in databases but also in different file formats e.g. txt, html, xml etc. where data retrieval rules are altogether different and vary from format to format. Retrieving data from files requires enterprise users to be aware of the underlying file schema and also the knowledge of the retrieval method used, specific to the file format [4].

Enterprise user is also obligatory to have information retention knowledge, as to where information of his/her interest is stored. It becomes very complex as there can be files and tables. Enterprise user is neither supposed to depend on programmer or memories where data of his interest is stored, things get over complicated because of data replication - same data can be stored in file and table at the same time. User does not want to depend on programmer neither have patience to memories where data is stored, user expects to give query without specifying where data is stored and in which format it is stored [5]

II. PROBLEM STATEMENT

With the advent of the technology, enterprise across the globe where in rush to computerize their process, however without having eye on the future the solutions where developed on heterogeneous source e.g

1. **Enterprise Budget** developed on open-source technologies like linux apache mysql php
2. **Enterprise Human Resource** developed on MSSQL microsoft. Net technologies
3. **Enterprise Finance** developed on Oracle & java

In the above scenarios it is very clear that enterprise is having 3 variant database systems which in themselves has different underlying architecture. Technically user interested in information is required to have knowledge of all the underlying database & database programming languages, which is beyond the common user's capability. Users in this case are also required

to know where their information of interest is stored in order to retrieve it as in which database and more specifically in which table [5].

III. INTRANET

“Is the generic term for a collection of private computer networks within an organization. An intranet uses network technologies as a tool to facilitate communication between people or work groups to improve the data sharing capability and overall knowledge base of an organization's employees.

Intranets utilize standard network hardware and software technologies like Ethernet, WiFi, TCP/IP, Web browsers and Web servers” [1].

IV. PROPOSED SOLUTION

The proposed solution makes use of organization intranet and existing database servers. The problem and applicability of solution is in itself imperative that most of the enterprise which have database servers installed will have intranet to interconnect organization information system. In early 1990s enterprise across the globe wanted to automate most of their solutions with database in the backend, resulting in enormous collection of data.

The proposed solution is web based where in web application developed interconnects all database servers based on their

1. ip address
2. username
3. password

irrespective of type of database management system.

“A database management system (DBMS) is the software that allows a computer to perform database functions of storing, retrieving, adding, deleting and modifying data. Relational database management systems (RDBMS) implement the relational model of tables and relationships” [2].

Though DBMS allows user to store, retrieve, delete, update etc data from the tables of the database however our proposed solution only allow application to retrieve data and not modify it. The reason for allowing solution to only retrieve data and not to update or modify it is because our proposed solution is meant for mining information for the users and is not meant to work as a traditional transaction server/OLAP.

The proposed solution is meant for enterprise users and will be managed by the application administrator. The administration of the application is where the various database servers will be managed by the application, and database servers can be added to the application of varying types i.e Oracle, mysql, MSSQL etc.,

The application stores the ip address, username & password along with type of Database Server i.e Oracle, mysql, MSSQL of the Database Servers for digging of information.

The user view is generic where in

user only enters keywords which are converted into the query by the application where in is the number of database servers added to the application.

Queries are executed on database server, and result if available is presented as a hyperlink to the user, in case the user query matches servers, then the hyperlinks are presented to user. User can view the result from specific servers by clicking the hyperlinks.

V. CONCLUSION

In early 1990s enterprise across the globe wanted to automate the applications without worrying about the architecture. Most of the enterprises globally ended up having multiple heterogeneous sources, and culling out useful information for the user of the enterprise became a challenge in itself. The solution presented in this paper is designed to meet user requirements where in user can access desired information without having to bother about underlying architecture and/or schema. In conclusion the enterprises are now managing and streamlining the data but till then we cannot make enterprise users wait.

REFERENCES

- [1] http://compnetworking.about.com/cs/intranets/g/bldef_intranet.htm
- [2] <http://databases.about.com/od/administration/g/dbms.htm>
- [3] R. Ashok Kumar, Dr Y. Rama Devi, “Efficient Approaches for Record level Web Information Extraction Systems”. Published in International Journal of Advanced Engineering & Application, pp 161-164, Jan 2011 .
- [4] Md. Sumon Shahriar and Jixue Liu, “Constraint-Based Data Transformation for Integration: An Information System Approach”, International Journal of Database Theory and Application Vol. 3, No. 1, pp 85-92, March, 2010.
- [5] J. Huang and E. Efthimiadis, “Analyzing and evaluating query reformulation strategies in web search logs”. In Proceedings of CIKM, pp 77-86, ACM, 2009
- [6] Ramakrishna Srikant, Sugato Basu, Ni Wang, Daryl Pregibon, “User browsing models: relevance versus examination”. In Proceedings of the 16th ACM SIGKDD international conference on Knowledge discovery and data mining, pp. 223-232, 2010